

Abstract

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A helical scan transport apparatus for reading and writing data on to a magnetic recording tape which is wound on a supply reel rotatably mounted within a removable tape cartridge ~~is disclosed. The helical transport includes~~

5 a chassis having a front end portion and a rear end portion. An elevator assembly is mounted on the chassis at the front end. The elevator assembly is configured to receive the tape cartridge and to position the tape cartridge in a loaded position. A take-up reel assembly is coupled to the chassis at the rear end portion. A helical deck is mounted on a central portion of the

10 chassis between the elevator assembly and the take-up reel assembly. The helical deck includes a rotary read/write head, a substantially linear tape loading path between the elevator assembly and the take-up reel assembly, and a movable guide for seizing the tape from the tape loading path and for at least partially wrapping the tape around the rotary head. A linear threading

15 mechanism is configured to grasp the leader block of the tape, thread the tape through the tape loading path of the helical deck, and couple the leader block to the take-up reel assembly. The helical transport has a form factor compatible with the Storage Technology Corporation Model 4400 Automated Cartridge System.

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